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**PATENT ABSTRACTS OF JAPAN**(21) Application number: **61250821**(51) Intl. Cl.: **B41J 29/46 G01N 21/89**(22) Application date: **23.10.86**

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(71) Applicant: **KITA DENSHI:KK**(72) Inventor: **SASAKI HIROSHI**

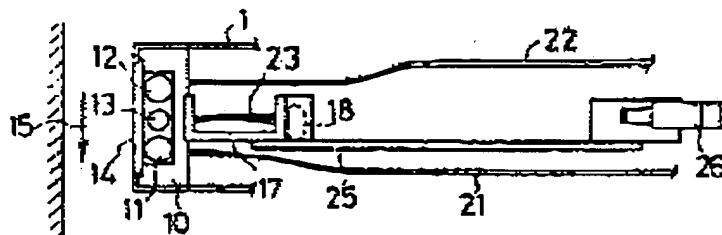
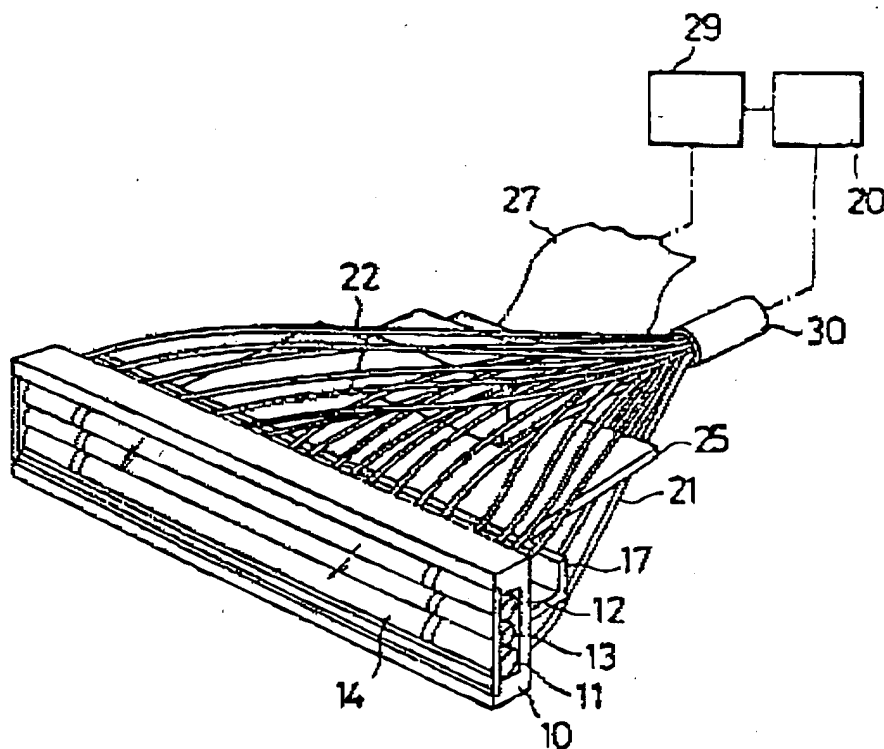
(74) Representative:

**(54) DETECTION OF PRINTING ERROR**

(57) Abstract:

**PURPOSE:** To prevent accuracy of detection from being lowered due to heat generation by a light emitting source, by disposing light-projecting lenses and a light-receiving lens in pair in the width direction of a printed surface, intermediately providing a light projecting optical fiber between the light-projecting lens and a light source and intermediately providing a light-receiving optical fiber between the light-receiving lens and a light-receiving sensor element.

**CONSTITUTION:** A light source 20 is preferably a white light source such as a halogen lamp and a xenon lamp, and light-projecting lenses 11, 12 and a light receiving lens 13 are disposed in the width



direction of a printed surface.

The light reflected from the printed surface is separated into three colors, and three channels are provided, one for one color. Though the halogen lamp or xenon lamp has a high heating value, when the light projecting optical fibers 21, 22 are used and the light source 20 is located on the outside of and remotely from a casing 1, the light source is prevented from exerting direct effects on a substrate 25, a light-receiving sensor element 18, the light-emitting lenses 11, 12, the light receiving lens 13 or an electric circuit, so that accuracy of detection can be enhanced.

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